INTERNATIONAL JOURNAL OF TRANSGENDERISM
2019, VOL. 20, NOS. 2–3, 132–137
https://doi.org/10.1080/15532739.2018.1534075

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GUEST EDITORIAL

Breaking down barriers and binaries in trans healthcare: The validation of non-binary people

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The field of gender affirming medical interventions now rests on over one hundred years of modern medical history, with the 'masculinisation surgery' (and subsequent legal recognition as male by the state of Prussia) of Herman Karl recorded in 1882 (Lester, 2017). This history owes much to practitioners willing to challenge social and medical expectations regarding sex/gender, yet this was in parallel with an uglier legacy of inflexible gatekeeping practices. This is typified in Garfinkel's case study of Agnes, a trans woman who in the late 1950s successfully constructed a fictitious intersex narrative in order to access gender affirming surgery otherwise unavailable to her (Garfinkel, 2006). This was only possible because Agnes had secretly taken estrogen, prescribed to her mother, from the age of 12. Agnes' status as a woman was subject to exceptional scrutiny and was only found valid because she fulfilled clinical expectations of what it meant 'to be' a 'real' woman to her doctors at the time. Not only was it vital that she had *never* engaged sexually with her penis, nor experienced attraction to women, but her measurements of 38-25-38, 'appropriate' style of dress, and active distain of homosexuality were topics of commentary in her medical records which helped her gain validation. In short, the cultural history of medical practice has a legacy of enforcement of the gender binary. While lessening in terms of the strict enforcement of gender roles and sexist stereotyping, a clinician may still potentially deem 'excess' masculinity in a trans woman (or femininity in a trans man) to be a subject of 'concern', in a way that gender expression in cis women and men does not disenfranchize their gender identities.

For the sake of this editorial, I define non-binary people as those who do not identify (exclusively) as male or female. I also use this as an umbrella term which is inclusive of people who identify themselves as genderqueer, agender/neutrois, and culturally specific conceptualizations of gender that exist outside of the Westernized gender binary (Vincent & Manzano, 2017). Language and identity categories are in a constant state of evolution, with many other terms used to capture particular experiences of (non-binary) gender. For example, genderfluidity indicates a sense of gender which varies over time. A bigender identity involves the experience of two gender identities – either simultaneously or varying (and so therefore may be fluid, or not). Before addressing the ramifications of the history of trans medicine, and developments in gender affirming medicine that are associated with non-binary people, it is necessary to unpack the ontology of non-binary and the implications of the above definition in regards to community identity politics. This allows a rigorous foundation for nuanced, sensitive, and flexible medical practice.

Firstly, a discussion of the conceptual complexities and different uses of 'sex' versus 'gender' is beyond the scope of this piece. However, a strict delineation between sex as 'biological factors' (typically chromosomes, hormone profile, genitals, gonads, and secondary sexual characteristics) and gender as psychosocial fails to recognize the evidence for at least a partial biological basis for gender identity (Kruijver et al., 2000). Such a demarcation also obscures how the meaning

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ascribed to *sex* is, like gender, subject to social interpretation (Butler, 1993; Kessler & McKenna, 1978). Therefore, I do not delineate the terms male/female as specific to sex, or man/women as specific to gender, but use these terms collectively in reference to sex/gender as a multifactoral and interlinked system.

The definition of non-binary given above inevitably situates all non-binary people as trans, because disidentification with being male or female inescapably means disidentification with the binary assignment made at birth. However, it is clinically relevant that not all non-binary people *identify as* trans. This creates tension between different uses of the term non-binary (as an attempt to describe a phenomenon on the one hand, versus an identity category on the other). It is important to recognize that an individual's relationship with terminology does not indicate whether they need gender affirming medical interventions. This is analogous with how trans people (particularly historically) may have experiences of gender dysphoria before they encounter the trans terminology which helps them to make personal sense of this experience. Yet, the historic relationship between trans people and desiring medical interventions to alter the body means that identification as non-binary but *not* as trans is far less likely to be encountered in clinical contexts. Many non-binary people struggle with accepting themselves as 'trans enough (to be trans)' in the absence of access to gender affirming medical interventions, regardless of whether interventions are desired (Vincent, 2016). The close but nonessential relationship between transness and transition can act as a barrier for some non-binary people embracing a trans identity. Disidentification with trans has been seen historically with trans people more generally, with many describing themselves as just a man (or woman). The phrasing 'man or woman with a trans history' attempts to address this by removing identity implications whilst maintaining a signpost to a person's social and/or medical history which a practitioner may need awareness of to optimize care. It is vitally important that the service user finds language used by practitioners to describe them (or their body parts) to be acceptable. This should be clarified through a process of explicit and open communication, centering the service user's comfort and self-concept. Failure to do so risks alienation, lack of trust of the practitioner, and potential negative impact to well-being.

The issue of trans affirmation runs deeply in the use of the language of sex/gender in medical practice. I argue there is a lack of nuance in describing anatomy as fundamentally 'male' or 'female' when in tension with a trans person's sense of selfhood (Vincent, 2018). For example, to describe an assigned female at birth (AFAB) person's chest as 'male' following mastectomy procedure may be validating if he is a man, but problematic if they are non-binary. Note, I avoid the phrase 'identify as' (a man, non-binary, etc.) as this discursively contributes to a cultural cisgenderism (Kennedy, 2013) whereby cis people 'are' men or women, but trans people 'identify as' men, women, or non-binary – subtly failing to validate to the same standard of 'realness'. This issue can be avoided by using precise descriptive language which avoids codification in terms of sex/gender as a universalized order. For example, if a karyotype analysis is conducted, description of results as XX, XY, XXY, etc. rather than 'female', 'male' or 'intersex' decouples the observed biology from language which also relates to an individual's sense of self, when these factors are otherwise linguistically collapsed.

The relationship between non-binary and intersex is a site of potential confusion. Intersex people – also sometimes stigmatizingly referred to as individuals with 'disorders' (or preferably, differences) of sex development, DSDs – are more likely to have a gender identity that is exclusively male or female (Kreukels et al., 2018). Intersex people pose a challenge to the construction of a simple cis/trans binary in cases where there is ambiguity around the assignation made at birth, though this is not the case for many intersex people, who have an unambiguous genital phenotype and are therefore assigned male or female at birth. The range of phenomena which constitute intersex conditions do not fundamentally situate any given individual as non-binary, though intersex people *may* be trans men or women, or non-binary. The concepts of intersex and non-binary are therefore discrete and

differentiable, but with potential for an individual to experience both (which may then potentially manifest as a intersex *gender identity*, using the term differently to its common clinical connotations).

The common understanding that it is helpful to conceptualize non-binary as under the trans umbrella (Currah, 2006) has seen a partial shift. In recent years, the phrase 'trans and non-binary' began appearing, but risked positioning non-binary people as fundamentally separate to trans. 'Binary and non-binary trans' attempts to resolve this but risks introducing a "binary/non-binary binary" (Pearce, Steinberg, & Moon, 2018) whereby non-binary treatment may become erroneously conceived as fundamentally different, with particular biomedical transition pathways expected or ossified for each category. Additionally, non-binary needs and variations can be flattened and obscured if the concept of a 'gender spectrum' is over-relied upon. This can risk situating all assigned male at birth (AMAB) non-binary people as transfeminine (but not 'as much' as trans women), and all AFAB people as transmasculine, but again, such that they are potentially situated relative to trans men as a category. The binary/non-binary binary similarly does a disservice to trans men and women, in that they may erroneously be seen as 'buying into' gender stereotypes, or conceived as homogenous with regards to desired medical interventions, self-concept, or relationships with masculinity and femininity. Further, how gender identity is experienced is complex, such that some individuals may trouble a mutually exclusive conceptualization through identification as non-binary men, or non-binary women (Vincent, 2016).

The potential for non-binary identities to be regarded as 'lesser' manifestations of trans manhood or womanhood can lead to non-binary being seen as a 'stepping stone' identity, as part of a process of negotiating identity as 'really' a trans man or woman. This is problematic and deeply disenfranchizing, not only through positioning non-binary identity as 'only' a phase, but also through the implication that identity in a given moment does not merit respect or support. While there are accounts of non-binary people renegotiating identity to one which is intelligible within the gender binary, the inverse can also be encountered (Vincent, 2016). That is, trans women or men may renegotiate their sense of self to be better encapsulated by a non-binary identity. This is partially explicable by the increased availability of language to make sense of non-binary identity, and the cultural intelligibility (Butler, 1993) of non-binary identification more generally. Further, the increasing willingness of providers to offer more individualized medical transition pathways allows non-binary people increased opportunities to pursue specific desires regarding their bodies which they may have never considered sanctionable, or medically possible. To give one example, a small number of surgeons offer vaginoplasty while allowing for preservation of the penis. One patient has given a limited account of how they didn't know this was an option until they "very nervously asked [their] surgeon", but after finding this was possible and having such a procedure, they "feel like [they] won the lottery" (Androgynoplasty, 2018, no pagination). Bellringer (2017) notes that none at the time of writing had ever requested such a surgery. This should be tempered with the recognition that it is possible a patient may fear a surgeon's potential reaction, and particularly worry that expressing atypical requests may risk their suitability for surgery to be reconsidered. Assumptions should be avoided about any gender identity being transitory, while acknowledging the validity of a person's reconceptualization in cases where this does occur.

The treatment of non-binary people in clinical contexts must consider a range of factors. These include sensitivity and cultural competency on the subject of language. Within English, use of singular they as a pronoun is particularly common, due to its familiar ease of use in contexts where gender is unknown. On some occasions, non-binary people may use different gender-neutral pronouns such as *ze* or *hir* (Bergman & Barker, 2017). It is important to both the practitioner/service-user relationship, and a commitment to ethical practice, that the non-binary person's desired mode of address is respected – including in writing, or if discussing them when they are not present (Lewis, Vincent, Brett,

Gibson, & Walsh, 2017). Further, the non-binary title Mx is increasingly common within official contexts (such as driving licences) in the United Kingdom. Practices should endeavor to ensure their administrative systems are capable of recognizing non-binary people, such that misgendering (Ansara & Hegarty, 2014; McLemore, 2015) is avoided. Negotiation of non-binary titles and pronouns may be more complex depending on national, cultural, and linguistic specificity – the consideration of which is beyond the scope of this editorial. Many more general aspects of administrative good practice for trans people in the clinical context apply equally to non-binary people. For example, providers should avoid any assumption of a person's gender identity on the basis of gender expression (such as clothing) alone. Further, a person disclosing their gender identity does not *necessarily* mean they are seeking access or referral to gender affirming medical interventions (they may wish to simply update their records or ensure they are recognized accurately when accessing other healthcare needs).

Some non-binary people will seek to access hormone replacement therapy (HRT). This may follow an identical pathway to trans men and women. In some cases, a non-binary person may wish for a lower dosage of hormones, to access HRT for a fixed period of time to stimulate particular irreversible changes but without long-term continuation, or to seek a gender-neutral hormone profile (Seal, 2017). With regards to estrogen prescription for assigned male at birth (AMAB) non-binary people, it is important to note that the *possibility* of breast growth is unavoidable. Although the extent of growth is highly variable, this should be made clear if a non-binary person is keen for some of the other changes associated with estrogen (such as softening of skin and reduction in facial hair growth), but ambivalent or nondesirous of breast growth. Likewise for AFAB non-binary people who may wish to access testosterone in order to acquire some changes but not others, it should be recognized that "if facial hair development is desired, clitoral growth is inevitable" (Seal, 2017, p. 194). The time frame for taking testosterone means that these changes would also be accompanied by some vocal pitch drop, none of which can be separated or reversed, though the extent of each is individual.

An extensive consideration of the changes associated with estrogen or testosterone prescription is beyond the scope of this piece, and these have been addressed elsewhere (Bouman & Arcelus, 2017; Vincent, 2018). There is limited specific research on the management of desired hypoandrogenism or hypoestrogenism – however, this does have known cardiovascular and musculoskeletal implications in addition to reduction/loss of fertility. AMAB hypoandrogenism (without estrogenic HRT) is associated with aspects of metabolic syndrome, including abdominal obesity and hypertension (Seal, 2017). Perhaps the most well-known risk of a hormone profile devoid of sex steroid activity (due to gonad removal and no subsequent HRT, or through the use of hormone blockers) is a loss of bone mineral density (BMD). It is known that calcium supplementation reduces bone loss in postmenopausal women (Aloia et al., 1994), though even very low estrogen in combination with calcium will have an increased protective effect compared to supplementation alone. However, the caveat about breast growth with estrogen for AMAB non-binary people remains, so this may not always be acceptable. If an AFAB non-binary person has sought hypoestrogenism through oophorectomy or blockers, then estrogen prescription is likely to be unacceptable. Testosterone prescription for AFAB people, to produce a cis male range, suggests a limited impact or improvement of BMD (Turner et al., 2004; Van Caenegem et al., 2015). Whether BMD is maintained with a low testosterone dose in AFAB people is not clearly established. Duel energy x-ray absorptiometry (DEXA) scanning may be used to monitor BMD in individuals with lower hormone profiles.

Non-binary people may have widely different needs regarding nonsurgical, nonhormonal medical interventions. Facial and/or body hair for instance may be strongly desired or a significant source of dysphoria where present, regardless of the individual's assignment at birth. A small number of women (trans and cis) embrace facial hirsutism in resistance to social pressures placed on women to shave, wax, or pluck, reiterating the point that variation found within the non-binary

population overlaps with cis and trans womanhood and manhood. Contemporary voice and communication therapy recognizes the potential desirability of producing a gender neutral or ambiguous vocal register (Mills & Stoneham, 2017), yet many binary-oriented and non-binary trans people do not pursue voice-related therapy.

Regarding surgeries, some transition pathways are relatively common. Perhaps the most straightforward and well-established surgery which has some specific association with non-binary people (rather than precedented extensively by trans men or women) is mastectomy in AFAB non-binary people who have not taken testosterone. Further, some AFAB non-binary people may desire breast reduction, rather than complete removal. Challenging the historically constructed trajectory of 'hormones before surgery' is reasonable across a wider range of interventions. While less common, providers should recognize the feasibility of phalloplasty without testosterone, or vaginoplasty without estrogen. Such surgeries have precedent in the binary-oriented trans population, particularly in cases where the service user has a contraindication for hormone prescription. While vaginoplasty preserving the penis has been acknowledged, phalloplasty without vaginectomy and/or colpocleisis (closure of the vagina) are more common – this may mean that urethral re-routing is not needed. Some surgical interventions which are possible are rejected on the basis of an unfavorable risk/benefit ratio. An example of this is any request for the testes to be relocated intra-abdominally (should penectomy and urethral meatoplasty be desired with a testosterone-based hormone profile). This is because no longer being able to palpate the testes would create risk of testicular cancer going undiagnosed (Bellringer, 2017). Whether cancer risk would be increased by intra-abdominal placement is unknown. While increased testicular cancer risk may be seen in men with cryptorchidism (Pottern et al., 1985) this may be due to specific factors more complex than elevated temperature (Karagas, Weiss, Strader, & Daling, 1989).

Treatment of non-binary people necessitates particular improvement. Increasing estimates of prevalence together with a slowly increasing community confidence that being open about non-binary status will not result in disadvantage will see narratives of gender growing in nuance (Richards et al., 2016). Due to the scope of this editorial, gender diversity in young people has not been specifically addressed. As with all young people, an affirmative approach to their sense of self is vital for the fostering of a relationship (parental or clinical) where the young person will feel able to be totally open about their feelings on and experience of gender (Ehrensaft, 2016). All practitioners should aim for a holistic, individualized, culturally nuanced approach to care. Hearing non-binary people is essential to achieving this.

Disclosure statement

No potential conflict of interest was reported by the authors.

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